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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/007,348

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EXAMINER

TRAN, PHUC H

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/007,348

Applicant(s)

BUDHRAJA, VIRENDRA K.

Examiner

PHUC H TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION*****Double Patenting***

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1-12 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-12 of prior U.S. Patent No. 6324185. This is a double patenting rejection.

Application No. 10/007348	Patent No. 6324185
<p>1. In a digital carrier loop network comprising a plurality of switching nodes, a network termination, and a subscriber termination coupled to each other via communication links, a method for establishing a cross-connection between the network termination and the subscriber termination for transporting TDM traffic from the network termination to the subscriber termination, the method comprising:</p> <p>determining a network path between the network termination and the subscriber termination comprising a series of switching nodes, the series of switching nodes including a first switching node coupled to the network termination, a last switching node coupled to the subscriber termination and intermediate nodes between the first switching node and the last switching node;</p> <p>determining bandwidth requirements for supporting the cross-connection between the network termination and the subscriber termination;</p> <p>configuring a first data structure at the first switching node based on the bandwidth requirements, the first data structure storing switching and bandwidth allocation information for connecting the first switching node to the network termination and to an intermediate switching node coupled with the first switching node, the switching information including last switching node identification information;</p> <p>configuring an intermediate data structure at each of the intermediate switching nodes based on the bandwidth requirements and on the information stored in the data structures of the previous switching node in the series of</p>	<p>1. In a digital carrier loop network comprising a plurality of switching nodes, a network termination, and a subscriber termination coupled to each other via communication links, a method for establishing a cross-connection between the network termination and the subscriber termination for transporting TDM traffic from the network termination to the subscriber termination, the method comprising:</p> <p>determining a network path between the network termination and the subscriber termination comprising a series of switching nodes, the series of switching nodes including a first switching node coupled to the network termination, a last switching node coupled to the subscriber termination and intermediate nodes between the first switching node and the last switching node;</p> <p>determining bandwidth requirements for supporting the cross-connection between the network termination and the subscriber termination;</p> <p>configuring a first data structure at the first switching node based on the bandwidth requirements, the first data structure storing switching and bandwidth allocation information for connecting the first switching node to the network termination and to an intermediate switching node coupled with the first switching node, the switching information including last switching node identification information;</p> <p>configuring an intermediate data structure at each of the intermediate switching nodes based on the bandwidth requirements and on the information stored in the data structures of the previous switching node in the series of</p>

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switching nodes, the intermediate data structure storing switching and bandwidth allocation information for connecting the intermediate switching node to the previous switching node and to the next switching node in the series of switching nodes, the switching information including last switching node identification information;

configuring a last data structure at the last switching node based on the bandwidth requirements and on the information stored in the data structure of an intermediate switching node coupled with the last switching node, the last data structure storing switching and bandwidth allocation information for connecting the last switching node to the switching node coupled with the second switching node and to the subscriber termination;

encapsulating the TDM traffic in ATM cells; and transporting the ATM cells between the network termination and the subscriber termination via the series of switching nodes using the information stored in the data structures at the switching nodes such that the ATM cells are switched at the switching nodes using ATM switching while bypassing TDM switching.

2. The method of claim 1 wherein determining the network path between the network termination and the subscriber termination comprises:

determining all possible network paths between the network termination and the subscriber termination;

determining number of switching nodes in each of said possible network paths; and

selecting the network path from said possible network paths having the least number of switching nodes.

3. The method of claim 2 wherein selecting the network path further comprises selecting the network path having the highest available bandwidth if more than one network paths have the same number of switching nodes.

4. The method of claim 1 wherein determining the bandwidth requirements comprises:

providing a network managing station coupled with the first switching node; and

receiving the bandwidth requirements for the cross-connection at the network managing station.

5. The method of claim 1 wherein each data structure configured at the first, intermediate, and last switching nodes includes at least one bandwidth block corresponding to an ATM cell to be transported via the switching node, the method further comprising:

storing the switching and bandwidth allocation information for the switching node in the bandwidth allocation block, the switching information including the last switching node identification information; and

performing switching and bandwidth allocation of the ATM cell according to the switching and mapping information stored in the bandwidth block, wherein the last switching node identification information identifies the switching node to which the ATM cell is to be transported.

switching nodes, the intermediate data structure storing switching and bandwidth allocation information for connecting the intermediate switching node to the previous switching node and to the next switching node in the series of switching nodes, the switching information including last switching node identification information;

configuring a last data structure at the last switching node based on the bandwidth requirements and on the information stored in the data structure of an intermediate switching node coupled with the last switching node, the last data structure storing switching and bandwidth allocation information for connecting the last switching node to the switching node coupled with the second switching node and to the subscriber termination;

encapsulating the TDM traffic in ATM cells; and transporting the ATM cells between the network termination and the subscriber termination via the series of switching nodes using the information stored in the data structures at the switching nodes such that the ATM cells are switched at the switching nodes using ATM switching while bypassing TDM switching.

2. The method of claim 1 wherein determining the network path between the network termination and the subscriber termination comprises:

determining all possible network paths between the network termination and the subscriber termination;

determining number of switching nodes in each of said possible network paths; and

selecting the network path from said possible network paths having the least number of switching nodes.

3. The method of claim 2 wherein selecting the network path further comprises selecting the network path having the highest available bandwidth if more than one network paths have the same number of switching nodes.

4. The method of claim 1 wherein determining the bandwidth requirements comprises:

providing a network managing station coupled with the first switching node; and

receiving the bandwidth requirements for the cross-connection at the network managing station.

5. The method of claim 1 wherein each data structure configured at the first, intermediate, and last switching nodes includes at least one bandwidth block corresponding to an ATM cell to be transported via the switching node, the method further comprising:

storing the switching and bandwidth allocation information for the switching node in the bandwidth allocation block, the switching information including the last switching node identification information; and

performing switching and bandwidth allocation of the ATM cell according to the switching and mapping information stored in the bandwidth block, wherein the last switching node identification information identifies the switching node to which the ATM cell is to be transported.

6. The method of claim 5 wherein configuring the data structure at each of the switching nodes comprises:  
    identifying a number of bandwidth blocks for supporting the cross-connection based on the bandwidth requirements of the cross-connection;  
    for each identified bandwidth block, determining the bandwidth allocation information, the bandwidth allocation information indicative of bandwidth to be allocated for the cross-connection from the ATM cell corresponding to the bandwidth block;  
    for each identified bandwidth block, determining a virtual path identifier and a virtual channel identifier value for performing ATM switching at the switching node; and  
    for each identified bandwidth block, storing the bandwidth allocation information, the virtual path identifier value and the virtual channel identifier values in the bandwidth block.

7. In a digital carrier loop network comprising a plurality of switching nodes, a network managing station, a network termination, and a subscriber termination coupled to each other via communication links, a system for establishing a cross-connection between the network termination and the subscriber terminal for transporting TDM traffic from the network terminal to the subscriber terminal, the system comprising:  
    the network managing station configured to determine a network path between the network termination and the subscriber termination for the cross-connection, the network path comprising a series of switching nodes coupled with the network termination and the subscriber termination, the series including a first switching node coupled with the network termination, a last switching node coupled with the subscriber termination, and intermediate switching nodes between the first and last switching nodes, wherein each of the switching nodes including a memory and a processor;  
    the network managing station further configured to determine the bandwidth requirements for the cross-connection and to communicate the bandwidth requirements to the series of switching nodes in the network path;  
    the first switching node is configured to determine switching and bandwidth allocation information, based on the bandwidth requirements, for connecting the first switching node to the network termination and to an intermediate switching node coupled with the first switching node, the switching and bandwidth allocation information being stored in a first data structure in the memory of the first switching node, the switching information including last switching node identification information;  
    each of the intermediate switching nodes is configured to determine switching and bandwidth allocation information, based on the bandwidth requirements, for connecting the intermediate switching node to the previous switching node and to the next switching node in the series of switching nodes, the switching and bandwidth allocation information being stored in an intermediate data structure in the memory of the intermediate switching node, the switching information including last switching node identification information;  
    the last switching node is configured to determine switching and bandwidth allocation information, based on the bandwidth requirements, for connecting the last switching node to the

6. The method of claim 5 wherein configuring the data structure at each of the switching nodes comprises:  
    identifying a number of bandwidth blocks for supporting the cross-connection based on the bandwidth requirements of the cross-connection;  
    for each identified bandwidth block, determining the bandwidth allocation information, the bandwidth allocation information indicative of bandwidth to be allocated for the cross-connection from the ATM cell corresponding to the bandwidth block;  
    for each identified bandwidth block, determining a virtual path identifier and a virtual channel identifier value for performing ATM switching at the switching node; and  
    for each identified bandwidth block, storing the bandwidth allocation information, the virtual path identifier value and the virtual channel identifier values in the bandwidth block.

7. In a digital carrier loop network comprising a plurality of switching nodes, a network managing station, a network termination, and a subscriber termination coupled to each other via communication links, a system for establishing a cross-connection between the network termination and the subscriber terminal for transporting TDM traffic from the network terminal to the subscriber terminal, the system comprising:  
    the network managing station configured to determine a network path between the network termination and the subscriber termination for the cross-connection, the network path comprising a series of switching nodes coupled with the network termination and the subscriber termination, the series including a first switching node coupled with the network termination, a last switching node coupled with the subscriber termination, and intermediate switching nodes between the first and last switching nodes, wherein each of the switching nodes including a memory and a processor;  
    the network managing station further configured to determine the bandwidth requirements for the cross-connection and to communicate the bandwidth requirements to the series of switching nodes in the network path;  
    the first switching node is configured to determine switching and bandwidth allocation information, based on the bandwidth requirements, for connecting the first switching node to the network termination and to an intermediate switching node coupled with the first switching node, the switching and bandwidth allocation information being stored in a first data structure in the memory of the first switching node, the switching information including last switching node identification information;  
    each of the intermediate switching nodes is configured to determine switching and bandwidth allocation information, based on the bandwidth requirements, for connecting the intermediate switching node to the previous switching node and to the next switching node in the series of switching nodes, the switching and bandwidth allocation information being stored in an intermediate data structure in the memory of the intermediate switching node, the switching information including last switching node identification information;  
    the last switching node is configured to determine switching and bandwidth allocation information, based on the bandwidth requirements, for connecting the last switching node to the

subscriber termination and to an intermediate switching node coupled with the last switching node, the switching and bandwidth allocation information being stored in a last data structure in the memory of the last switching node; and the switching nodes are configured to transport the ATM cells, encapsulating the TDM traffic, from the network termination to the subscriber termination using the switching and bandwidth allocation information contained in the data structures stored in the memories of the switching nodes such that the ATM cells are switched at the switching nodes using ATM switching while bypassing TDM switching.

8. The system of 7 wherein in order to determine the network path, the network managing station is configured to determine all possible network paths between the network termination and the subscriber termination, to determine number of switching nodes in each of said possible network paths, and to select the network path from the possible network paths by selecting the network path having the least number of switching nodes.

9. The system of claim 8 wherein the network managing station is further configured to select the network path having the highest available bandwidth if 3 more than one network paths have the same number of switching nodes.

10. The system of claim 7 wherein each data structure stored in the memories of the first, intermediate, and last switching nodes contains at least one bandwidth block corresponding to an ATM cell to be transported via the switching node, the bandwidth block storing the switching and bandwidth allocation information for the switching node, the information defining the bandwidth allocation and switching characteristics for the ATM cell, the switching information including the last switching node identification information identifying the switching node to which the ATM cell is to be transported.

11. The system of claim 10 wherein each switching node is further configured to identify a number of bandwidth blocks for supporting the cross-connection based on the bandwidth requirements of the cross-connection, for each identified bandwidth block each switching node is configured to determine the bandwidth allocation information, the bandwidth allocation information indicative of bandwidth to be allocated for the cross-connection in the ATM cell corresponding to the bandwidth block, to determine a virtual path identifier and a virtual channel identifier value for performing ATM switching at the switching node, the switching node configured to store the bandwidth allocation information, the virtual path identifier value, and the virtual channel identifier value in the bandwidth block.

12. In a digital carrier loop network comprising a plurality of switching nodes, a network termination, and a subscriber termination coupled to each other via communication links, a computer program product for establishing a cross-connection between the network termination and the subscriber termination for transporting TDM traffic from the network termination to the subscriber termination, the product

subscriber termination and to an intermediate switching node coupled with the last switching node, the switching and bandwidth allocation information being stored in a last data structure in the memory of the last switching node; and the switching nodes are configured to transport the ATM cells, encapsulating the TDM traffic, from the network termination to the subscriber termination using the switching and bandwidth allocation information contained in the data structures stored in the memories of the switching nodes such that the ATM cells are switched at the switching nodes using ATM switching while bypassing TDM switching.

8. The system of claim 7 wherein in order to determine the network path, the network managing station is configured to determine all possible network paths between the network termination and the subscriber termination, to determine number of switching nodes in each of said possible network paths, and to select the network path from the possible network paths by selecting the network path having the least number of switching nodes.

9. The system of claim 8 wherein the network managing station is further configured to select the network path having the highest available bandwidth if more than one network paths have the same number of switching nodes.

10. The system of claim 7 wherein each data structure stored in the memories of the first, intermediate, and last switching nodes contains at least one bandwidth block corresponding to an ATM cell to be transported via the switching node, the bandwidth block storing the switching and bandwidth allocation information for the switching node, the information defining the bandwidth allocation and switching characteristics for the ATM cell, the switching information including the last switching node identification information identifying the switching node to which the ATM cell is to be transported.

11. The system of claim 10 wherein each switching node is further configured to identify a number of bandwidth blocks for supporting the cross-connection based on the bandwidth requirements of the cross-connection, for each identified bandwidth block each switching node is configured to determine the bandwidth allocation information, the bandwidth allocation information indicative of bandwidth to be allocated for the cross-connection in the ATM cell corresponding to the bandwidth block, to determine a virtual path identifier and a virtual channel identifier value for performing ATM switching at the switching node, the switching node configured to store the bandwidth allocation information, the virtual path identifier value, and the virtual channel identifier value in the bandwidth block.

12. In a digital carrier loop network comprising a plurality of switching nodes, a network termination, and a subscriber termination coupled to each other via communication links, a computer program product for establishing a cross-connection between the network termination and the subscriber termination for transporting TDM traffic from the network termination to the subscriber termination, the product

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comprising:

code for determining a network path between the network termination and the subscriber termination comprising a series of switching nodes, the series of switching nodes including a first switching node coupled to the network termination, a last switching node coupled to the subscriber termination and intermediate nodes between the first switching node and the last switching node;

code for determining bandwidth requirements for supporting the cross-connection between the network termination and the subscriber termination;

code for configuring a first data structure at the first switching node based on the bandwidth requirements, the first data structure storing switching and bandwidth allocation information for connecting the first switching node to the network termination and to an intermediate switching node coupled with the first switching node, the switching information including last switching node identification information;

code for configuring an intermediate data structure at each of the intermediate switching nodes based on the bandwidth requirements and on the information stored in the data structures of the previous switching node in the series of switching nodes, the intermediate data structure storing switching and bandwidth allocation information for connecting the intermediate switching node to the previous switching node and to the next switching node in the series of switching nodes, the switching information including last switching node identification information;

code for configuring a last data structure at the last switching node based on the bandwidth requirements and on the information stored in the data structure of an intermediate switching node coupled with the last switching node, the last data structure storing switching and bandwidth allocation information for connecting the last switching node to the switching node coupled with the second switching node and to the subscriber termination;

code for encapsulating the TDM traffic in ATM cells;

code for transporting the ATM cells between the network termination and the subscriber termination via the series of switching nodes using the information stored in the data structures at the switching nodes such that the ATM cells are switched at the switching node using ATM switching while bypassing TDM switching; and

a computer-readable storage medium for storing the codes.

comprising:

code for determining a network path between the network termination and the subscriber termination comprising a series of switching nodes, the series of switching nodes including a first switching node coupled to the network termination, a last switching node coupled to the subscriber termination and intermediate nodes between the first switching node and the last switching node;

code for determining bandwidth requirements for supporting the cross-connection between the network termination and the subscriber termination;

code for configuring a first data structure at the first switching node based on the bandwidth requirements, the first data structure storing switching and bandwidth allocation information for connecting the first switching node to the network termination and to an intermediate switching node coupled with the first switching node, the switching information including last switching node identification information;

code for configuring an intermediate data structure at each of the intermediate switching nodes based on the bandwidth requirements and on the information stored in the data structures of the previous switching node in the series of switching nodes, the intermediate data structure storing switching and bandwidth allocation information for connecting the intermediate switching node to the previous switching node and to the next switching node in the series of switching nodes, the switching information including last switching node identification information;

code for configuring a last data structure at the last switching node based on the bandwidth requirements and on the information stored in the data structure of an intermediate switching node coupled with the last switching node, the last data structure storing switching and bandwidth allocation information for connecting the last switching node to the switching node coupled with the second switching node and to the subscriber termination;

code for encapsulating the TDM traffic in ATM cells;

code for transporting the ATM cells between the network termination and the subscriber termination via the series of switching nodes using the information stored in the data structures at the switching nodes such that the ATM cells are switched at the switching nodes using ATM switching while bypassing TDM switching; and

a computer-readable storage medium for storing the codes.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUC H TRAN whose telephone number is (571) 272-3172. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RAO SEEMA can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuc Tran  
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Art Unit 2664

P.t



DANG TON  
PATENT EXAMINER